

**WHAT IS CLAIMED IS:**

1. A method for inhibiting the spread and/or reducing the risk of infection of a virus comprising contacting a virus with an inhibiting effective amount of a cathelicidin functional fragment.
2. The method of claim 1, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence  $\text{NH}_2\text{-X}_1\text{X}_2\text{X}_3\text{X}_4\text{X}_5\text{X}_6\text{IKX}_7\text{FX}_8\text{X}_9\text{X}_{10}\text{LX}_{11}\text{P-COOH}$  (SEQ ID NO:1), wherein  $\text{X}_1$ ,  $\text{X}_2$ , and  $\text{X}_6$  are individually K or R; wherein  $\text{X}_3$  is I or K; wherein  $\text{X}_4$  is V or G; wherein  $\text{X}_5$  is Q or R; wherein  $\text{X}_7$ ,  $\text{X}_9$ ,  $\text{X}_{10}$ , and  $\text{X}_{11}$  are each individually any amino acid; wherein  $\text{X}_8$  is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.
3. The method of claim 2, wherein the peptide is about 16 to 20 amino acids in length.
4. The method of claim 3, wherein the peptide comprises a sequence selected from the group consisting of:
  - (a)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVP-COOH}$  (SEQ ID NO:13);
  - (b)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPR-COOH}$  (SEQ ID NO:14);
  - (c)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRT-COOH}$  (SEQ ID NO:15);
  - (d)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVP RTE-COOH}$  (SEQ ID NO:16); and
  - (e)  $\text{NH}_2\text{-KRIVQRIKDFLRNLVPRTES-COOH}$  (SEQ ID NO:17).
5. The method of claim 3, wherein the polypeptide is about 26 to 30 amino acids in length.
6. The method of claim 5, wherein the peptide comprises a sequence selected from the group consisting of:
  - (a)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH}$  (SEQ ID NO:18);
  - (b)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH}$  (SEQ ID NO:19);
  - (c)  $\text{NH}_2\text{-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH}$  (SEQ ID NO:20);

(d)  $\text{NH}_2$ -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and

(e)  $\text{NH}_2$ -KSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:22).

7. The method of claim 2, wherein the peptide is about 27 to 31 amino acids in length.

8. The method of claim 7, wherein the peptide comprises a sequence selected from the group consisting of:

(a)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);

(b)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP R-COOH (SEQ ID NO:24);

(c)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RT-COOH (SEQ ID NO:25);

(d)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);

(e)  $\text{NH}_2$ -RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:27).

9. The method of claim 2, wherein the peptide is 36 amino acids in length.

10. The method of claim 9, wherein the peptide consists of the sequence  $\text{NH}_2$ -LGDFFRKSKEKIGKEFKRIVQRIKDFLRNLVP RTE S-COOH (SEQ ID NO:28).

11. The method of claim 1, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and papilloma virus.

12. The method of claim 1, wherein the contacting is *in vivo*.

13. The method of claim 12, wherein the contacting *in vivo* is by topical administration.

14. A method of treating atopic dermatitis comprising contacting a subject having or suspected of having atopic dermatitis with an inhibiting effective amount of a cathelicidin functional fragment.

15. The method of claim 14, wherein the cathelicidin functional fragment comprises a peptide that is 16-36 amino acids in length; and contains the sequence NH<sub>2</sub>-X<sub>1</sub>X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub>X<sub>6</sub>IKX<sub>7</sub>FX<sub>8</sub>X<sub>9</sub>X<sub>10</sub>LX<sub>11</sub>P-COOH (SEQ ID NO:1), wherein X<sub>1</sub>, X<sub>2</sub>, and X<sub>6</sub> are individually K or R; wherein X<sub>3</sub> is I or K; wherein X<sub>4</sub> is V or G; wherein X<sub>5</sub> is Q or R; wherein X<sub>7</sub>, X<sub>9</sub>, X<sub>10</sub>, and X<sub>11</sub> are each individually any amino acid; wherein X<sub>8</sub> is L or F and wherein the polypeptide comprises antimicrobial and/or antiviral activity.

16. The method of claim 15, wherein the peptide is about 16 to 20 amino acids in length.

17. The method of claim 16, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH<sub>2</sub>-KRIVQRIKDFLRNLVP-COOH (SEQ ID NO:13);
- (b) NH<sub>2</sub>-KRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:14);
- (c) NH<sub>2</sub>-KRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:15);
- (d) NH<sub>2</sub>-KRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:16); and
- (e) NH<sub>2</sub>-KRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:17).

18. The method of claim 15, wherein the polypeptide is about 26 to 30 amino acids in length.

19. The method of claim 18, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:18);
- (b) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:19);
- (c) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:20);
- (d) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:21); and

(e) NH<sub>2</sub>-KSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:22).

20. The method of claim 15, wherein the peptide is about 27 to 31 amino acids in length.

21. The method of claim 20, wherein the peptide comprises a sequence selected from the group consisting of:

- (a) NH<sub>2</sub>-RKSKEKIGKEFKRIVQRIKDFLRNLVP-COOH (SEQ ID NO:23);
- (b) NH<sub>2</sub>-RKSKEKIGKEFKRIVQRIKDFLRNLVPR-COOH (SEQ ID NO:24);
- (c) NH<sub>2</sub>-RKSKEKIGKEFKRIVQRIKDFLRNLVPRT-COOH (SEQ ID NO:25);
- (d) NH<sub>2</sub>-RKSKEKIGKEFKRIVQRIKDFLRNLVP RTE-COOH (SEQ ID NO:26);
- (e) NH<sub>2</sub>-RKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:27).

22. The method of claim 15, wherein the peptide is 36 amino acids in length.

23. The method of claim 22, wherein the peptide consists of the sequence NH<sub>2</sub>-LGDFFRKSKEKIGKEFKRIVQRIKDFLRNLVPRTES-COOH (SEQ ID NO:28).

24. The method of claim 14, wherein the virus is selected from a pox virus, a herpes virus, vaccinia virus, and papilloma virus.

25. The method of claim 14, wherein the contacting is *in vivo*.

26. The method of claim 25, wherein the contacting *in vivo* is by topical administration.